

5/25


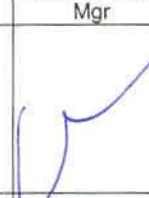
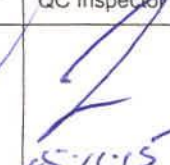
SPUR

DART AEROSPACE LTD		Work Order:	23341 B
Description: Wearplate		Part Number:	D3319-3
Dwg: D3319 Rev. A page 2		Qty:	20
		Page 1 of 1	

Step	Location	Procedure	By	Date	Qty
1	DC	Issue Traveler	HA	05.06.13	20
2	PG	Issue P/O: <u>2008792</u> Email or Ship DXF file to vendor Laser Cut flat pattern per Dwg D3319 Possible Supplier: Industrial Laser Material release note is required	AS	05/10/11	20
3	RG	Receive and inspect for transit damage Ensure material release note is attached	LY	05/10/25	20
4	QC6	Inspect dimensions as per inspection template D3319-3T1	LY	05-11-15	19
5	GA	Deburr if necessary	N/A		
6	GB	Form using DT8326 & DT8261 as per Dwg D3319 Dwg Rev: <u>0</u>	SP	05/11/15	19
7	QC6	Inspect dimensions as per Dwg D3319	LY	05-11-16	19
8	WS	Weld hard surface using D3319-3T2 as per QSI 004 and Dwg D3319 Dwg Rev: <u>6</u> Qty Part Number Description M18952 Batch M19100 A/R N/A 7560 Hardcoat Rod M19172	CP	05-12-06	15
9	QC9	Inspect weld	HA	05/12/06	15
10	FP	Powder Coat Grey Sandtex (Ref: 4.3.5.6) as per QSI 005 4.3	ML	05 12 21	15
11	QC3	Inspect Powder Coat	CL	05/12/20	15
12	ST	Identify on inside surface using a permanent fine point marker with the following: TCCA-PDA, Dart Aerospace Ltd. P/N: D3319-3, B/N: BXXXXX For Product Eligibility see PDA04-18 and Stock	PO	05/12/22	15
13	AC	Cost / part:	LY	05/12/22	15
14	DC	Close W/O Inspect Level 21	AS	05/12/22	15

Rev	Date	Change	Revised By	Approved
A	05.05.12	New issue	KJ/JLM	

PRELIMINARY ISSUE

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector
05-11-15	4	Took one for template		05-11-15	1		 05-11-15

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA:  Date: 06/01/03

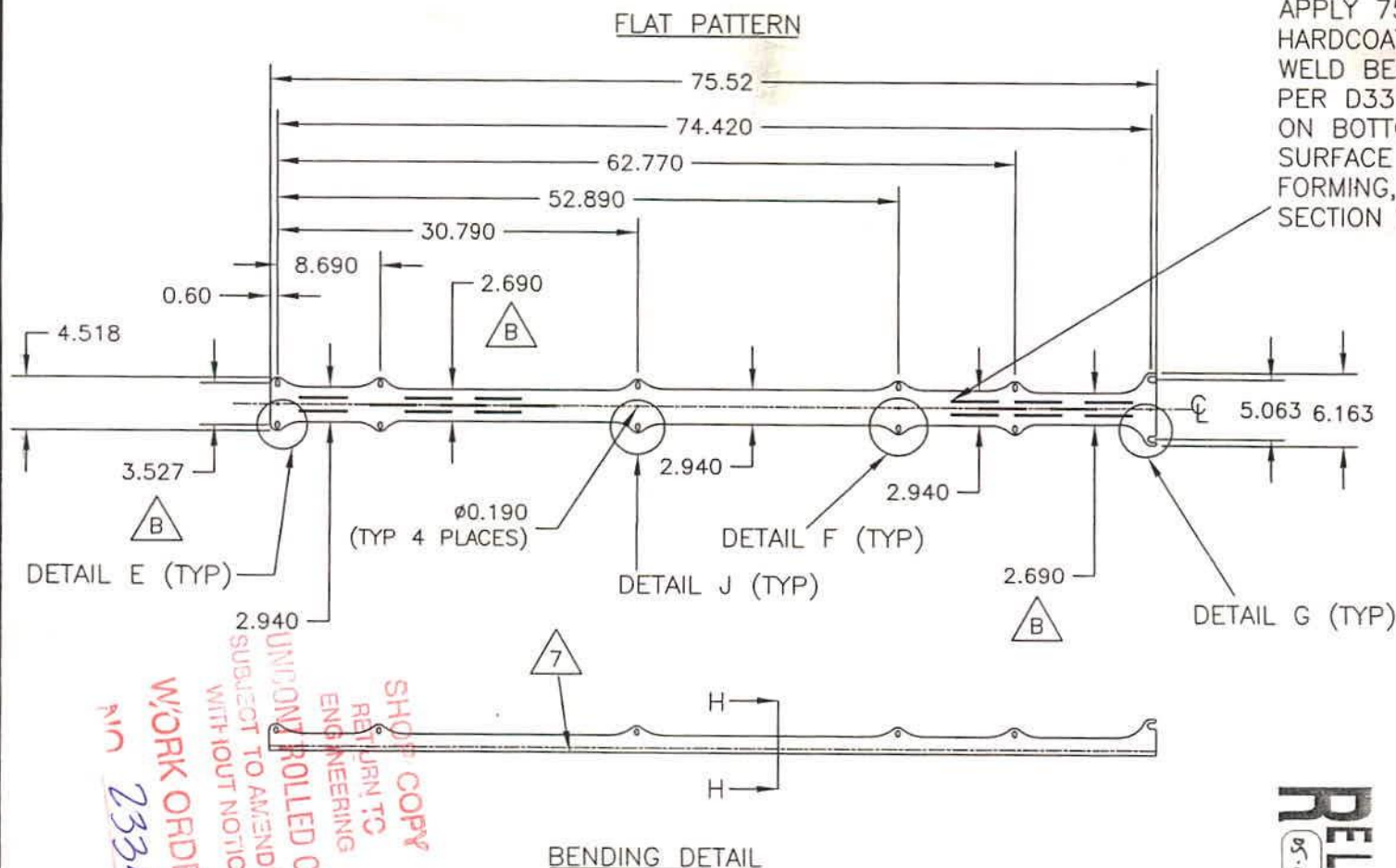
NOTE: Date & initial all entries

QA: N/C Closed: _____ Date: _____

DART

DESIGN	01	DRAWN BY	01	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECKED	01	APPROVED	01	DRAWING NO. D3319
DATE	05.06.06	TITLE	WEARPLATE	REV. B
				SHEET 2 OF 5
				SCALE 1:15

APPLY 7560
HARDCOAT
WELD BEADS
PER D3319-3T1
ON BOTTOM
SURFACE AFTER
FORMING, SEE
SECTION H-H



RELEASED
05-07-20

BENDING DETAIL

D3319-3 WEARPLATE

- 1) MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A1008 OR CSA G40-21, 38W/44W/50W/60W/70W SERIES STEEL 18 GAUGE (0.048 THICK)
- 2) FINISH: POWDER COAT GREY SANDTEX (REF.4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) PART IS SYMMETRICAL ABOUT CENTERLINE
- 5) ALL DIMENSIONS IN INCHES
- 6) WELD PER DART QSI 004
- 7) IDENTIFY ON INSIDE SURFACE AS INDICATED USING FINE POINT PERMANENT INK MARKER:
"TCCA-PDA, DART AEROSPACE LTD., P/N D3319-3 B/N BXXXXX,
FOR PRODUCT ELIGIBILITY SEE PDA05-18"

SHOT COPY
RETURN TO
ENGINEERING
UNION ROLLED COPY
SUBJECT TO AMENDMENT
WITH OUT NOTICE
WORK ORDER
NO 23341

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Job Costing Report

Dart Aerospace Ltd.
Hawkesbury

May 17, 2005
10:51 am

Work Order No : 0023341
Project Name : D3319-3
Project For : WK525
Work Order Type : Main
Main WO Number :
House Part Number : D3319-3
Description : Wearplate
Manufactured : Yes
Amount Req'd : 20
Amount Done : 0
Start Date : 05-17-05
Est Finish Date : 06-30-05
Act Finish Date :
Drawings Req'd : No
Ok for Approval :
Approval Rec'd :

Department Code:
Burden Flags : NNNNNNNN
WO Status : Open
Invoice State : Not Invoiced
Invoice Date :
Invoice Number :
Invoice Amount : 0.00
Order Entry No :
OE Value : 0.00
Est Mark Up : 0.000%
Actual Mark Up : 0.000%
\$0 Posted to Finished Goods

	Estimated	Actual	Var. %	Posted	To Post
Material Cost :	0.00	0.00	0.00	0.00	0.00
Engineering Hours :	0.00	0.00	0.00		
Engineering Cost :	0.00	0.00	0.00	0.00	0.00
Production Hours :	0.00	0.00	0.00		
Production Cost :	0.00	0.00	0.00	0.00	0.00
Packaging Hours :	0.00	0.00	0.00		
Packaging Cost :	0.00	0.00	0.00	0.00	0.00
OverHead Hours :	0.00	0.00	0.00		
OverHead Cost :	0.00	0.00	0.00	0.00	0.00
CNC Hours :	0.00	0.00	0.00		
CNC :	0.00	0.00	0.00	0.00	0.00
Misc. Hours :	0.00	0.00	0.00		
Misc. :	0.00	0.00	0.00	0.00	0.00
Burden :	0.00	0.00	0.00		
Total Cost :	0.00	0.00	0.00		
Mark up :	0.000	0.000			
Selling Cost :	0.00	0.00			

	Estimated	Actual
Labour Hrs/Amount Done :	0.00	0.00
Profits/(Loss) :	0.00	0.00

California Steel Industries
14000 San Bernardino Ave.
Fontana, California 92335
Ph (909) 350-6300

CERTIFIED TEST REPORT

CUSTOMER ORDER P50614ME002		MO. NUMBER 02-8344-01		SHIPPING DATE 08/01/05		CAR NUMBER RR: WCTR142061		TALLY NUMBER PO 250499136 1 /	
B I L L T O	WILKINSON STEEL AND METALS A DIVISION OF PREMETAL CO., INC. 888 S.E. MARINE DR., VANCOUVER BC, CANADA, V5X2V3			S H I P T O	WILKINSON STEEL-METALS C/O GARY R. HAMILTON TRUCKING 888 S.E. MARINE DR., VANCOUVER BC, CANADA BC V5Y 2				

MARK ALL DOCUMENTS W/P.O. P50614ME002. FAX TALLIES AT TIME OF SHIPMENT TO MEL ELIAS FAX #604-301-3244.

END USE	WAREHOUSE STOCK - NON-CRITICAL SURFACE
PROD	H.R. COILS - P & O - PRIME
SPEC	ASTM-A-1011-00-CS-TYPE B

T/R 1	INSPECTION	MILL			
DESCRIPTION		COILS, PIECES OR BUNDLES	HEAT NUMBER		
.0605 x 48.0000 x COIL		1	T42354		
NOM ME		1	T42348		
					<p>I CERTIFY THE FOLLOWING TEST INFORMATION TO BE CORRECT AS CONTAINED IN THE RECORDS OF THE COMPANY.</p> <p><i>Arthur D. Jenkins</i></p> <p>CHIEF - LABORATORY SERVICES</p>

MECHANICAL PROPERTIES							CHEMICAL ANALYSIS														10:48:05 08/01/05 CC				
HEAT OR LOT NUMBER	SLAB NUMBER	L O C	YIELD KSI	TENSILE STRENGTH KSI	% ELONGATION		BEND TEST	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Al	V	Cb	Ti	N				
					8"	2"																			
T42354								08	.39	010	006	006	01	01	01	00	050	000	000	000	002				
T42348								08	.38	014	010	007	01	01	01	00	046	000	000	001	003				

CTR-001 PTLUC2L 890712



New Zealand Steel Limited
Glenbrook, South Auckland
Postal Private Bag 92121, Auckland, New Zealand
Telephones: (09) 375 8999 / 375 8111 Auckland
(09) 235 8089 / 235 3535 Wairakei
Fax: (09) 375 8959

TEST CERTIFICATE

Ref: 521022495

CUSTOMER		Wilkinson		150323P12001		SPECIFICATION		ASTMA1008 CS Type A		CERTIFICATE No		TC112396												
CUSTOMER ON		90-21N-686				PRODUCT		CRA WIDE COIL		PAGE		1 of 1												
MILL QIN		480736				DIMENSIONS		0.844" x 48" x Coil		DATE		09 June 2005												
PACK NUMBER	HEAT No	CHEMICAL COMPOSITION PERCENT													MECHANICAL TESTS (TEST SPECIFICATION - ASTM A370)									
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti	Al	B	N2	CE ()	BEND	YIELD	T.S.	%ELONG	HARDNESS	r	LENGTH
		x100				x1000									x10000	x100	180°				G.L.=	HRB	()	(feet)
R9-460748-00	642185	5	TR	20	7	16	11	17	19	1	4	1	1					Good				50		1968
R9-460749-00	642185	5	TR	20	7	16	11	17	19	1	4	1	1					Good				50		1913
R9-461119-00	642185	5	TR	20	7	16	11	17	19	1	4	1	1					Good				47		1926
R9-461120-00	642185	5	TR	20	7	16	11	17	19	1	4	1	1					Good				47		1713

YIELD		GAUGE LENGTH (G.L.)		PLASTIC STRAIN RATIO (r)		IMPACT TEST		CARBON EQUIVALENT VALUE (CE)	
(A)=0.2% PROOF STRESS	(A)=200mm	(C)=80mm	(E)=2"	(A)=r0	(C)=r45	(A)=10mm x 10mm	(C)=5mm x 5mm	(A)=C+Mn/6	(C)=C+Mn/6+Si/24
(B)=LOWER YIELD STRESS	(B)=50mm	(D)=5.65 x So	(F)=8"	(B)=r90	(D)=(r0+r90+2r45) / 4	(B)=7.5mm x 10mm	(D)=5mm x 10mm	(B)=C+Mn/6+(Cr+V+Mo)/5+(Cu+Ni)/15	(D)=

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN TESTED AND INSPECTED WITH SATISFACTORY RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE ABOVE SPECIFICATION

APPROVED *Satish Misra*
QC METALLURGIST

14ND003-1 T M INDUSTRIAL (P50323DI001.642185)

Date: Thursday, 11/17/2005 12:11:45 PM
 User: Linda Lacelle

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : WEARPLATE
Job Number : 23341	
Estimate Number : 10606	
P.O. Number :	Part Number : D33193
This Issue : 11/17/2005 S.O. No. :	Drawing Number : D3319 REV. B
Prsht Rev. : NC	Project Number :
First Issue : 11/17/2005 Type : PURCHASED PARTS	Drawing Revision : B
Previous Run : 24210	Material :
Written By :	Due Date : 11/24/2005 Qty: 20 Um: Each
Checked & Approved By :	
Comment : Est: A 05.05.12 New issue KJ/JLM	

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
----------------	------------------------------	----------------------

1.0	PG	PURCHASING
-----	----	------------

**Comment:** PURCHASING

Issue P/O: _____
 Email or Ship DXF file to vendor
 Laser Cut flat pattern per Dwg D3319
 Possible Supplier: Industrial Laser
 Material release note is required

2.0	D33193F	Wearplate
-----	---------	-----------

3.0	PACKAGING 1	PACKAGING RESOURCE #1
-----	-------------	-----------------------

**Comment:** PACKAGING RESOURCE #1

Recieve & Inspect for Transit Damage
 Ensure Material Release Note is attached

4.0	QC6	DIMENSIONAL CHECK
-----	-----	-------------------

**Comment:** DIMENSIONAL CHECK

Inspect dimensions as per inspection template D3319-3T1

5.0	SMALL FAB 1	SMALL & MEDIUM FAB RESOURCE 1
-----	-------------	-------------------------------

**Comment:** SMALL & MEDIUM FAB RESOURCE 1

Deburr if necessary

6.0	BRAKE NC	NC BRAKE
-----	----------	----------

**Comment:** NC BRAKE

Form using DT8326 & DT8261 as per Dwg D3319 Rev: _____

Date: Thursday, 11/17/2005 12:11:45 PM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: WEARPLATE

Job Number: 23341

Part Number: D33193

Job Number:



Seq. #:

Machine Or Operation:

Description :

7.0

QC6

DIMENSIONAL CHECK



Comment: DIMENSIONAL CHECK

8.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

Weld hard surface using D3319-3T2 per QSI 004 and Dwg D3319 Rev: ____

Qty Part Number Description Batch

A/R N/A 7560 Hardcoat Rod

9.0

QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

10.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat Grey Sandtex (Ref: 4.3.5.6) as per QSI 005 4.3

11.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT

12.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify on inside surface using a permanent fine point marker with the following:

TCCA-PDA, Dart Aerospace Ltd.

P/N: D3319-3, B/N: BXXXXX

For Product Eligibility see PDA05-18

and Stock

Location: ____

13.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

Job Completion



Job Costing Report

Dart Aerospace Ltd.
Hawkesbury

Nov 08, 2005
10:23 am

Work Order No : 0023341
Project Name : D3319-3
Project For : WK525
Work Order Type : Main
Main WO Number :
House Part Number : D3319-3
Description : Wearplate
Manufactured : Yes
Amount Req'd : 20
Amount Done : 0
Start Date : 05-17-05
Est Finish Date : 06-30-05
Act Finish Date :
Drawings Req'd : No
Ok for Approval :
Approval Rec'd :

Department Code:
Burden Flags : NNNNNNNN
WO Status : Open
Invoice State : Not Invoiced
Invoice Date :
Invoice Number :
Invoice Amount : 0.00
Order Entry No :
OE Value : 0.00
Est Margin : 0.000%
Actual Margin : 0.000%
\$0 Posted to Finished Goods

	Estimated	Actual	Var. %	Posted	To Post
Material Cost :	0.00	370.00	100.00	0.00	370.00
Engineering Hours :	0.00	0.00	0.00		
Engineering Cost :	0.00	0.00	0.00	0.00	0.00
Production Hours :	0.00	0.00	0.00		
Production Cost :	0.00	0.00	0.00	0.00	0.00
Packaging Hours :	0.00	0.00	0.00		
Packaging Cost :	0.00	0.00	0.00	0.00	0.00
OverHead Hours :	0.00	0.00	0.00		
OverHead Cost :	0.00	0.00	0.00	0.00	0.00
CNC Hours :	0.00	0.00	0.00		
CNC :	0.00	0.00	0.00	0.00	0.00
Misc. Hours :	0.00	0.00	0.00		
Misc. :	0.00	0.00	0.00	0.00	0.00
Burden :	0.00	0.00	0.00		
Total Cost :	0.00	370.00	100.00		
Margin :	0.000	0.000			
Selling Cost :	0.00	370.00			

	Estimated	Actual
Labour Hrs/Amount Done :	0.00	0.00
Profits/(Loss) :	0.00	(-370.00)